

Claims:

*Please amend the claims as follows:*

Please cancel claim 3.

Please add new claims 14-21.

1.     **(Original)**     A method for treating arthritis comprising delivering to a subject a therapeutic gene using a lentiviral gene delivery vector such that the gene is expressed at sufficient levels and for a sufficient period to treat the subject.
2.     **(Original)**     The method of claim 1, wherein the lentiviral vector is selected from the group consisting of HIV, FIV, SIV, BIV, EIAV vectors.
3.     **(Cancel)**
4.     **(Original)**     The method of claim 1, wherein the lentiviral vector is injected directly into an affected joint of the subject.
5.     **(Original)**     A method for treating arthritis comprising transfecting cells *ex vivo* with a therapeutic gene using a lentiviral gene delivery vector and administering the cells to a subject.
6.     **(Original)**     The method of claim 5, wherein the lentiviral vector is selected from the group consisting of HIV, FIV, SIV, BIV, and EIAV vectors.

7. **(Original)** The method of claim 5, wherein the therapeutic gene is selected from the group consisting of soluble Interleukin-1 $\alpha$  Receptor Type I, Soluble Interleukin-1 $\alpha$  Receptor Type II, Interleukin -1 $\alpha$  Receptor Antagonist Protein (IRAP), Insulin-Like Growth Factor (IGF), Tissue Inhibitors of Matrix Metallo-Proteinases (TIMP) -1,-2,-3,-4, Bone Morphogenic Protein (BMP)-2 and -7, Indian Hedgehog, Sox-9, Interleukin-4, Transforming Growth Factor (TGF) - $\beta$ , Superficial Zone Protein, Cartilage Growth and Differentiation Factors (CGDF), Bcl-2, Soluble Tumor Necrosis Factor (TNF)- $\alpha$  Receptor, Fibronectin and/or Fibronectin Fragments, Leukemia Inhibitory Factor (LIF), LIF binding protein (LBP), Interleukin-4, Interleukin-10, Interleukin-11, Interleukin-13, Hyaluronan Synthase, soluble TNF- $\alpha$  receptors 55 and 75, Insulin Growth Factor (IGF)-1, activators of plasminogen, urokinase plasminogen activator (uPA), parathyroid hormone-related protein (PTHrP), and platelet derived growth factor (PDGF)-AA -AB or -BB.
8. **(Original)** The method of claim 5, wherein the cells are autologous.
9. **(Original)** The method of claim 8, wherein the cells are bone marrow cells.
10. **(Original)** The method of claim 8, wherein the cells are mesenchymal stem cells obtained from adipose tissue.
11. **(Original)** The method of claim 8, wherein the cells are synovial fibroblasts or chondrocytes
12. **(Original)** The method of claim 5, wherein the cells are non-autologous (allogeneic or xenogenic).
13. **(Original)** The method of claim 12, wherein the cells are a cell line or primary cells derived from a human or animal source.

14. **(New)** The method of claim 1, wherein the therapeutic gene is selected from the group consisting of a gene encoding a soluble IL-1 receptor, an antagonist of an IL-1 receptor, a soluble TNF- $\alpha$  receptor, a TGF- $\beta$  family member, a plasminogen activator, a plasminogen inhibitor, a tissue inhibitor of matrix metallo-proteinases (TIMP), a matrix metallo-proteinase (MMP), an interleukin (IL), and a platelet-derived growth factor (PDGF).
15. **(New)** The method of claim 14, wherein the soluble IL-1 receptor is selected from the group consisting of a soluble Interleukin-1 $\alpha$  receptor type I or a soluble Interleukin-1 $\alpha$  receptor type II.
16. **(New)** The method of claim 14, wherein the antagonist of the IL-1 receptor is an Interleukin-1 $\alpha$  receptor antagonist (IL-1Ra).
17. **(New)** The method of claim 14, wherein the TIMP is selected from the group consisting of TIMP-1, TIMP-2, TIMP-3, and TIMP-4.
18. **(New)** The method of claim 14, wherein the IL is selected from the group consisting of IL-4, IL-10, IL-11, and IL-13.
19. **(New)** The method of claim 14, wherein the PDGF is selected from the group consisting of PDGF-AA, PDGF-AB, and PDGF-BB.
20. **(New)** The method of claim 14, wherein the soluble TNF- $\alpha$  receptor is soluble TNF-R55 or soluble TNF-R75.

21. **(New)** The method of claim 1, wherein the therapeutic gene is selected from the group consisting of fibronectin, a fibronectin fragment, Transforming Growth Factor- $\beta$  (TGF- $\beta$ ), Insulin-Like Growth Factor (IGF), Leukemia Inhibitory Factor (LIF), LIF binding protein (LBP), Bone Morphogenic Protein-2 (BMP-2), Bone Morphogenic Protein-7 (BMP-7), Insulin Growth Factor (IGF)-1, Indian hedgehog (Ihh), parathyroid hormone-related protein (PTHrP), hyaluronan synthase, Sox-9, Superficial Zone Protein, Cartilage Growth and Differentiation Factors (CGDF), Bcl-2, soluble TNF-R55, soluble TNF-R75, and a urokinase plasminogen activator (uPA).